# DROYLSDEN URBAN DISTRICT COUNCIL.

# ANNUAL REPORT

OF THE

Medical Officer of Health.

1920.

A. MEGSON & SON LTD., Printers, Cambridge Street, Manchester.

# Urban District of Droylsden.

Area: 1,144 acres.	
Population: At Census, 1901	11,097
At Census, 1911	13,259
At December 31st, 1920	13,645
Number of Inhabited Houses:	
At Census, 1901	2,447
Average number of persons per house	4.53
At Census, 1911	2,992
Average number of persons per house	4.43
At end of 1920	3,201
Average number of persons per house	4.26
Birth Rate for 1920	24.7
Death Rate for 1920	11.5
General District Rate, 1920–21 7/	– in £
Poor Rate, 1920–21 6/	/- in £
Rateable Value 1920-21	58 988

# Annual Report of the Medical Officer of Health For 1920.

# TO THE CHAIRMAN AND MEMBERS OF THE DROYLSDEN URBAN DISTRICT COUNCIL.

MISS WOOD AND GENTLEMEN,

I beg to submit to you my Annual Report as to the health and sanitary condition of the district for the year 1920.

# PHYSICAL AND SOCIAL FEATURES AND GENERAL CHARACTER OF THE DISTRICT.

The Droylsden Urban District lies between the City of Manchester and the Borough of Ashton-under-Lyne, which are situated west and east of it respectively. On the north it is bounded by the Failsworth Urban and the Limehurst Rural Districts, and on the south by the Audenshaw Urban District. It forms practically part of the City of Manchester.

Geologically, the district is situated upon clay, overlying shale and coal.

The surface of the district is generally flat, and is at a mean altitude of 300 feet above ordnance datum.

Houses are built principally along the three main thoroughfares of the district.

Mills and factories are situated along the banks of two canals, and most of the land in the rest of Droylsden is unbuilt upon.

The industries of the district are mainly cotton spinning and weaving, cloth finishing and dyeing, but a large number of colliers and men engaged in the iron and steel industry in adjacent districts reside in Droylsden.

### VITAL STATISTICS.

### BIRTH RATE.

During the year the births of 338 infants (173 males and 165 females) were registered. Of these births 11 males and 5 females were illegitimate.

The birth rate for the year is 24.7 per 1,000, the highest recorded since 1911. The average for the last 10 years is 21.5 per 1,000.

### DEATH RATE.

During the year the deaths of 157 persons were registered. This gives a death rate of 11.5 per 1,000. Of these deaths 26 (13 males and 13 females) were children under one year of age.

Measured in proportion to the recorded births, this gives an infant mortality of 76 per 1,000.

Diseases of the respiratory organs such as bronchitis and pneumonia, caused 31 deaths, or 19 per cent. of the total deaths, as compared with 21 per cent. in 1919, and 15 per cent. in 1918.

All tubercular diseases caused 18 deaths or 11 per cent. of the total deaths as compared with 9.8 per cent. in 1919, and 7 per cent. in 1918. Fourteen of these deaths were caused by phthisis, which gives a phthisis death-rate of 1.02 as compared with 1.21 in 1919.

Diseases of the zymotic or infectious class caused 11 deaths. The epidemic death rate for the year is .80 as compared with .30 in 1919.

The general death rate is the lowest which can be traced in the records of the district.

The following table shows the number of deaths from the chief zymotic diseases during the last ten years:—

*								•		
	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
Erysipelas	. 0	0	0	0	0	1	0	0	0	0
Measles		9	3	5	5	3	6	0	0	2
Scarlet fever	. 0	0	0	4	0	0	0	0	1	1
Whooping cough	. 2	9	3	3	3	11	1	6	1	4
Diphtheria	. 4	1	0	1	2	2	2	2	1	2
Enteric fever	. 2	2	0	2	3	0	0	0	0	0
Influenza	. 0	0	0	0	0	0	0	44	17	2
	15	21	6	15	13	17	9	52	20	11

# VITAL STATISTICS OF WHOLE DISTRICT DURING 1920 AND PREVIOUS YEARS.

OI		all S.		Rate.	13	14.8 113.5 114.8 114.8 113.8 113.9
ELONGING RICT.		At a Age	At all Ages. Ages. Num-R		12	201 186 199 227 192 176 214 183 183 F. 82
Nett Deaths belonging to the District.				Rate per 1000 nett Births.	П	116.9 118 120.8 130 97 76 66
NET		Under 1 Year of Age.		Num- ber.	01	38 36 40 41 41 10 10 10 26
ERABLE THS.		Of	Residents	not Registered in the District.	6	4 4 4 3 9 9 4 4 3 9 9 4 4 9 9 9 9 9 9 9
TRANSFERABLE DEATHS.		Of Non-	Resident	Registered in the District.	∞	61
EATHS	HE	ICT.		Rate.	7	11.8 11.5 11.5 11.5 11.5 11.5 11.5 11.5
TOTAL DEATHS REGISTERED	IN THE	L'ISTRICT.		Num- ber.	9	160 145 160 184
				Rate.	್ತ	24.26.23.8.23.6.19.6.117.6.117.8
BIRTHS.				Num- ber.	4	325 305 331 315 277 250 239 244 [M. 173]
				Un- corrected No.	က	322 322 323 313
		Population Estimated	to middle	of each Year.	2	$\begin{array}{c} 13500 \\ 13700 \\ 133900 \\ 13329 \\ 12951 \\ 14091 \\ 14158 \\ 12721 \\ 14158 \\ 1227 \\ 14260 \\ 13122 \\ 13669 \\ 13645 \\ \end{array}$
			YEAR.		1	1912 1913 1914 1915 1916 1917 1918 1919

Causes of Death.	Males	S.	Females.
Measles	1		1
Scarlet Fever	1		0
Whooping Cough	0	•••	4
Diphtheria	2		0
Influenza	0		2
Pulmonary Tuberculosis	8		6
Other Tubercular Diseases	3		1
Cancer	6		10
Rheumatic Fever	0		2
Organic Heart Diseases	6		6
Bronchitis	7	• • •	10
Pneumonia	7		4
Other Respiratory Diseases	1		2
Diarrhœa	2		0
Appendicitis	1		0
Cirrhosis of the Liver	1		0
Nephritis	3	•••	2
Parturition	0	•••	1
Congenital Debility	4		5
Violence	6		<b>2</b>
Other defined diseases	16	•••	24
	 75		82
Total	• •	 157	04
10tai	••••	197	
Deaths of Infants under 1 year of age	13	•••	13
Total		26	

### POOR LAW RELIEF.

The amount of out-door relief granted by the Board of Guardians to persons resident in Droylsden amounted to the sum of £1,281 10s. 7d.

Advantage is also taken by the residents of Droylsden of the splendid hospital facilities afforded to them by the close proximity of the Manchester Royal Infirmary, Ancoats Hospital, Ashton-under-Lyne Infirmary, St. Mary's Hospitals, to all of which institutions the Urban District Council make an annual contribution, and many other institutions in the Manchester district set apart for special diseases.

### SANITARY CIRCUMSTANCES OF THE DISTRICT.

### WATER.

The district is amply provided with Water from the service mains of the Manchester Corporation. The water is of excellent quality, and the supply constant except in times of severe drought, when the only resulting disadvantage is that the supply is curtailed during the night time.

Only two houses are not supplied with water direct from the mains. These houses are situated and derive their water supply, which is of good quality, respectively, as follows: "Uplands," Greenside, private well in garden; Gartside Farm, spring near farm.

### RIVERS AND STREAMS.

The pollution of the rivers and streams in the district is of negligible amount, and such slight pollution as does exist cannot be further obviated.

### DRAINAGE AND SEWERAGE.

An excellent main scheme exists in Droylsden.

The sewers which are on the combined system are ventilated by perforated manhole covers at the ground level, an objectionable system, which at certain times and places gives rise to nuisance.

The sewers are so constructed that the whole of the sewage finds its way to the Sewage Disposal Works by gravitation. Owing to the extremely small gradient of some of the sewers a considerable amount of silting occurs in certain lengths, this being particularly noticeable in the Edge Lane sewer (south).

Periods of heavy rainfall resulted in many cellared houses becoming flooded, and the cause of this was found, after investigation, to be due to obstructions in the sewers. The main sewers were afterwards given a thorough cleansing and storm taps fitted to drains, and I am pleased to report that there has been no recurrence of the trouble.

In recent years many of the insanitary sewers have been relaid, but a number of old sewers of an insufficient character still remain and these are being substituted where possible by properly laid stoneware pipe sewers, so that the work of converting the remaining privy closets to the water-carriage system can be carried out.

With the exception of 35 houses the whole of the dwelling-houses, mills and workshops, in the district are connected with the main drainage system; eleven houses having been disconnected from ditches during the year. These houses are scattered in remote parts of the district, and it is the intention to bring the drainage from them into the main sewers as quickly as possible.

During the past eleven years active measures have been taken to remedy the very unsatisfactory system of house drainage formerly in vogue and in over 1,100 cases since 1910, the whole of the existing yard drains, slopstone drains, etc., have been removed and substituted by properly constructed cement-jointed socketed earthenware pipe drains, with trapped gullies at all inlets. This work has been undertaken at the same time as the conversion of closets to the water-carriage system. Very few houses at which the drainage is inefficient now remain in the district and these cases are being dealt with as rapidly as possible. In almost every instance the water test is applied to new drains.

### SEWAGE DISPOSAL.

The Sewage Outfall Works are situated at Sunny Bank at a distance of some 300 yards from a few isolated dwelling-houses. The Sewage Disposal Works were remodelled in 1910, and consists of an Inlet Chamber, 2 Catchpits, 4 large Precipitation Tanks, 2 Bacterial Filters, with fixed spray nozzles, and a small Measuring Chamber at the outlet. The initial flow of storm water is provided for by two large tanks formerly used as precipitation tanks. The system works well and the effluent, which eventually enters the river Irwell, and samples of which are frequently taken by the Inspectors of the Mersey and Irwell Joint Committee, does not usually give cause for complaint, although the standard is sometimes below the regulations of the Joint Committee.

The effluent will be considerably improved, and I hope prove quite satisfactory after the completion of the new Humus Tanks at the outlet of the filters, work upon which has been proceeding during the year.

The precipitated sludge from the tanks is ordinarily converted into Pressed Sludge Cakes by means of a sludge pressing plant consisting of three presses worked by an air compressor, the latter being driven by a small steam engine fed by waste steam from the Refuse Destructor.

Owing to extensive repairs necessitating the stoppage of the Refuse Destructor the practice of pumping sludge into lagoons in the Greenside Valley, had, of necessity, again to be revived: this system is now only used during an emergency.

### CLOSET ACCOMMODATION.

Considerable progress was again made with the conversion of privy closets to the water-carriage system.

During the year 1920, as a result of notices issued by the Council, there were 152 privy middens, 8 pails and 2 waste water closets converted to the fresh water carriage system.

The value and importance of the work being carried out by the Urban District of Droylsden in this connection are enhanced by a comparison with that performed in other County Districts in the County Palatine of Lancaster.

I find on reference to the excellent and comprehensive Annual Report of the County Medical Officer of Health (Dr. J. J. Butterworth), for 1919, that there existed at the beginning of that year in the Districts of the 122 Local Authorities comprised in the Administrative County of Lancaster a total of over 71,000 privy closets, of which 321 were situated in Droylsden. During the year a total of 503 only of these privy closets in the County were converted into fresh water closets. Of these 503 conversions no less than 100, or practically one-fifth of the total were carried out in Droylsden, the next nearest being Dalton-in-Furness with 36.

I append the following table showing the number of privy closets converted to the water-carriage system during the past few years, and in connection with the matter I may mention that the whole of the cost and expense of the work

has been borne by the owners respectively, no grant of any kind having been made by the District Council towards the cost:—

1908 63		1913281	•••	1918 0
1909 54		1914191		1919 100
1910117	•••	1915 56	•••	1920 152
1911419		1916 4	•••	
1912402	•••	1917 1	•••	Total 1,840

At factories, workshops, and schools 2 privy closets and 2 waste water closets were abolished and 23 new w.c.'s provided.

For the first time in the history of the district the sanitary accommodation at factories and workshops is now completely on the water-carriage system.

The following statement gives particulars of the closet accommodation in the district, with information as to the number of each type of closet, remaining at the end of the year 1920:—

Number	of	Fresh Water Closets	3567
Number	of	Waste Water Closets	37
Number	of	Pail Closets	10
${\bf Number}$	of	Privy Closets	167

and these are situate as follows:-

										Portable Dust Bins.
3101		37		2		128		195		2740
ids 7		0	• • •	2		13	•••	10	• • •	6
		0		0	•••	26		6		18
and										
293		0	• • •	6	•••	0	• • •	1		2
3567		<del></del>		$\frac{-}{10}$		167		212		7766
	water w.c 3101 ads 7 , cc. 166 and 293	water W.C.'s 3101 ads 7 ce. 166 and 293	water w.c.'s. w.c 3101 37 ads 7 0 c. 166 0 and 293 0	water W.C.'s. W.C.s 3101 37 ads 7 0 ce. 166 0 and 293 0	Water W.C.'s.       W.C.s       Close          3101        37        2         ads       7        0        2         cc.       166        0        0         and       293        0        6         —       —       —       —       —	Water W.C.'s.       W.C.s       Closets.          3101        2          ads       7        0        2          de.       166        0        0          and       293        0        6	Water W.C.'s.       W.C.s       Closets.       Closets.       Closets.          3101        37        2        128         ads       7        0        2        13         de.       166        0        0        26         and       293        0        6        0	Water W.C.'s.       W.C.s.       Closets.       Closets.       Allowed Streets          3101        37        2        128          ads       7        0        2        13          ce.       166        0        26          and       293        0        6        0	Water W.C.'s.       W.C.s.       Closets.       Closets.       Middens          3101        37        2        128        195         ads       7        0        2        13        10           0        0        26        6         and         0        0        1              0        1	3101 37 2 128 195 ads 7 0 2 13 10 c. 166 0 0 26 6 and 293 0 6 0 1

The work of clearing away privy closets is still proceeding with great rapidity, and the end of this objectionable system is almost in sight.

Proceedings were instituted against the owner of seven dwelling-houses for failure to carry out closet conversions when ordered to do so by the Council, but in view of the work having been commenced before the date of hearing, the action was withdrawn.

### SCAVENGING.

The work of refuse removal is carried out by adminstration and is performed in a satisfactory manner.

Middens and ashpits are cleansed in the night-time, and the refuse from movable ashbins is collected in the day time. Ashpits and middens are emptied from time to time as required, and dry refuse is ordinarily collected at weekly or fortnightly intervals according to circumstances.

The system of emptying in the main streets, preparatory to loading in carts, the contents of ashtins from narrow passages often gave rise to nuisance and complaint owing to the fouling of the streets, and the presence of dust in windy weather.

The trouble has been overcome by the provision of new can trucks on which the ashbins are loaded in pairs and conveyed bodily to the streets for the contents to be loaded direct into the carts. This method also possesses the advantage of prolonging the life of the galvanised ashtins, by averting the wear and tear formerly caused by trundling the tins over rough surfaces and loosening the bottom hoops or rims.

Sailcloth covers for covering over the dry refuse in windy weather also now form part of the equipment of each dust-cart.

660 loads of night-soil were removed from 805 middens and ashpits, and 2,050 loads of dry refuse were removed in the day time. 109 loads of trade refuse were also brought to the Destructor. The cost of the removal of all refuse was £1,583 or  $11.8\frac{1}{4}$  per load as compared with £1,426 and  $11.0\frac{1}{2}$  per load in 1919. Receipts for the removal of Trade Refuse amounted to £25 17s. 1d.

3,660 tons of refuse were collected during the year, as follows:—Night-soil, 698 tons; Dry Refuse, 2,847 tons; and Trade Refuse, 115 tons; and of these, 2,238 tons were burnt

in the Refuse Destructor. The Refuse Destructor was closed during a considerable period of the year, and during this period the refuse was tipped in the Greenside Valley in such a manner and position as would not lead to the creation of a nuisance.

The steam from the Destructor is utilised for the purposes of sludge pressing, stone crushing, mortar making and steam disinfecting.

Movable galvanised metal ashbins with proper covers are being substituted for ashpits and middens, and the following table gives an indication of the number of houses at which such substitution has taken place during recent years:—

1910104		191560		1920	178
1911407		1916 1	•••		
1912485		1917 0		Total	1848
1913314	•••	1918 0	•••		
1914216	• • •	191983			

In order to facilitate the provision or renewal of dilapidated and unserviceable ashbins the Council maintain a stock of portable galvanised metal ashbins with covers, and these are retailed to owners of property at a fraction above cost price. During the year 1920, 302 ashbins were sold in this manner, the price realised being £240 3s. 9d.

### SANITARY INSPECTION OF DISTRICT.

During the year inspections of premises made by the Inspector of Nuisances resulted in the discovery of 1,229 nuisances at 558 houses as follows:—

### List of Nuisances Abated in 1920.

Insanitary	privy	closets c	onverte	d to W.	C's	152
,,	pail	,,	,,	,,	•••	8
,,		-water	,,,	,,_		2
,,		ens replac				90
,,		elosets re				4
Defective	drains	s relaid				138
,,		gullies re				88
,,	slop '	waste-pip	es repa	$\operatorname{ired}$		76
,,	down	spouts re	newed .			33
,,	yard	walls reb	uilt			65

Defective yard surfaces relaid	94
Dilapidated ashbins renewed	192
Ashbin improperly used	1
Defective house roofs made watertight	24
" house floors repaired	3
,, plaster on walls repaired	2
,, grates and cooking ranges reset	3
·	$\frac{3}{24}$
Dangerous chimney stacks rebuilt	1
Damphaga and general defects	1
Dampness and general defects	_
Insufficient water supply to houses	13
Damp walls and floor remedied	1
Flooded cellars drained	7
,, pantries ,,	4
,, houses ,,, streets, yards and passages drained	4
,, streets, yards and passages drained	8
Defective downspouts and roof gutters replaced	26
" roof gutters repaired	3
Dirty house walls washed	1
Dirty houses cleansed	2
W.C. stoppages removed	7
Yard drain stoppages removed	32
Insanitary ashpit removed	1
Cesspool removed	1
Leakage from privy closet	ī
Communication between w.c. and pantry closed	î
Burst pipe in w.c.	ī
Defective w.c. cisterns replaced	8
. 1 . 1	7
walls and mosts makerilt	2
Accumulation of manure	1
Accumulation of manure	12
,, filth and refuse	
,, stagnant water	3
Soakage from trade refuse	1
Container for trade refuse provided	1
Cesspool at piggeries provided	1
Keeping of poultry prohibited	1
Foul smells from open M.H. cover stopped	2
Defective back yard gates renewed	2
Wash-houses re-drained	13
Insufficient ventilation of house remedied	1
Overcrowding of house abated	1
Bug infested house fumigated	1
Defective water taps repaired	6
New gullies in passages	3

Street and passage gully stoppages removed Stable gully: Gully provided with iron grid. New street gully provided. Defective service water channels repaired. Defective paving round yard gully. Ashtins re-provided with covers. Black smoke Insanitary cowsheds closed Structural defects at tripe boiling premises	10 1 1 1 1 1 2 4 2
Insanitary piggeries closed	1
Insanitary urinal removed	6
Limewashing of cowsheds enforced	3
Open milk vessels provided with covers  Milk vessels removed from presence of odorous	2
articles	6
Limewashing of bakehouses enforced	2
Ventilation of bakehouse enforced	1
Use of underground bakehouse discontinued	î
Nuisance from flies in bakehouse	î
Dirty w.c. at bakehouse cleansed	î
-	
1	,229

Immediate and active steps were taken to obtain the remedy of defects or nuisances, and for this purpose 274 Informal and 37 Statutory Notices were served upon the owners, agents or occupiers of the respective premises.

At the end of 1920 there remained 10 Informal and 20 Statutory Notices not complied with, but active steps are being taken in each case to have the work carried out.

I have had for many years to call attention to the unsatisfactory condition of the two public urinals, these being very obsolete and in a state of decay. I am pleased to notice that at last a definite movement is being made whereby it is intended to furnish these conveniences with white glazed compartments and proper flushing apparatus, which when carried out will effect a most desirable improvement.

The state of the back passages in the district calls for attention, as with few exceptions the whole of the passages are unpaved and in many cases are almost impassable in wet weather, and are a serious menace to health.

The condition of the passages and approaches to houses is often rendered more atrocious by the householders depositing house refuse (ashes, etc.) in the worst places. This material, besides creating a nuisance, is quite unsuitable for the purpose, quickly causes an extension of the trouble, and induces the tenants to heap up ashes over the worst parts until eventually side drains become choked and the approaches made impassable.

Several cases of this kind were encountered during the year, probably more than usual in consequence of the very wet season, and in some instances the owners were served with Notices under the Public Health Acts Amendment Act, 1907, to repair the passages, and in others the refuse was picked up and removed by the Urban District Council as a sanitary precaution.

In June the Health Committee decided to have printed large Posters giving Notice under the Public Health Act, 1875, that persons depositing rubbish, refuse, tins, etc., in such manner as to cause a nuisance would be prosecuted.

The posting of the Notices has undoubtedly had a deterrent effect in the offending quarters.

### SANITARY CONDITION OF THEATRES, MUSIC HALLS, ETC.

In accordance with the instructions of the Ministry of Health, dated 25th August, 1920, directing that arrangements should be made by the Sanitary Authority for all theatres, music halls, and other places of public entertainment in their district to be visited periodically by Inspectors of Nuisances, who should report both to their Authority and to the Licensing Authority any cases in which the conditions are found to be unsatisfactory, your Inspector of Nuisances has conducted detailed investigations at the premises in Droylsden. Defects arising from insufficient lighting and ventilation of w.c.'s, and an improperly placed and badly constructed urinal, etc., were found at the Palace Theatre and Empire Billiard Hall. These defects have now been remedied and all buildings of the class referred to are now provided with proper sanitary accommodation and are in a good structural condition.

PREMISES AND OCCUPATIONS WHICH CAN BE CONTROLLED BY BYE-LAWS AND REGULATIONS.

The number and character of these premises and occupations are as follows:—

	No.	Registered.			Remarks.
Slaughter Houses	8		Yes.		Clean.
Dairies and Cowsheds	19		Yes.		Clean.
Milkshops					Clean.
Bakehouses	28	• • •	Yes.	•••	Clean
					One underground.
Offensive Trades	_	•••	3	• • •	
					Registered.
Outworkers				• • •	Clean.
Common Lodging Houses				•••	
Other Lodging Houses	Nil.				

The Outworkers are engaged at heir own homes mainly in the sewing of underclothes and baby's garments for firms in Manchester. The work is only part time, only affecting four houses, and almost negligible. No cases of infectious disease have occurred at any of the houses, and the intervention of the Hea'th Department has not been necessary in any case.

Two applications to establish piggeries in the district were refused, and one piggery was condemned owing to a defective system and nuisance arising therefrom.

### VAN DWELLERS.

For many years it has been customary for gipsies, hawkers and other van-dwellers to settle for periods of greater or less duration on vacant plots of land in the immediate vicinity of dwelling-houses in the district. After a few days occupation of the land, these van-dwellers possessing neither fresh water-supply, means of dainage, or disposal of excreta and rubbish, became by their presence an annoyance to residents in the neighbourhood, and caused the ground to become foul and untidy. Many difficulties were encountered in remedying the undesirable state of affairs thus created, and in April the Urban District Council adopted Bye-Laws with respect to Tents, Vans, Sheds and similar Structures used for Human Habitation in the Urban District of Droylsden, the seal of the Ministry of Health being affixed to these on the 22nd July, 1920. Since these Bye-Laws

became operative copies have been served on all van-dwellers immediately upon their appearance in the District becoming known, this action being followed up by a threat of proceedings for the recovery of penalties in case of offences being committed. The net result has been to secure the instant removal of van-dwellers in every case and effectually prevent their return.

### NEW BUILDINGS.

In connection with the erection of new buildings and the alteration to existing structures, an innovation was introduced during the year whereby all building plans deposited with the Surveyor are submitted to the Medical Officer of Health and Sanitary Inspector, who examine the proposals strictly from the health and sanitary points of view, afterwards appending their written observations to the plans, which then go forward for consideration by the Health and Highways Committees respectively.

Under this new system eighteen plans were submitted for the opinion of the Health Department, and as a direct result of the observations of the Health Officers seven plans were either disapproved or referred back for amendment in sanitary details.

The growth of undesirable temporary buildings in the District was the subject of a report by the Sanitary Inspector in November, and it is satisfactory to note that the opinions then expressed have received the approval of the Urban District Council and that a strict watch is now kept for the appearance of this class of building, and in every case, proper conditions attached to a license governing its construction and the period of its existence.

### SCHOOLS.

There are three Public Elementary Schools of modern construction and two other Day Schools of earlier date. The sanitary condition and water supply of these schools is good. It has not been found necessary during the year to close any schools for the purpose of preventing the spread of infectious disease, but the schools were thoroughly disinfected during each of the usual holidays and at such other times when children's diseases were prevalent in the district.

By request of the Secretary of State the following information relative to the administration of the Factory and Workshop Act, 1901, in connection with Factories, Workshops, Workplaces, and Homework is given.

1.—Inspection of Factories, Workshops and workplaces, including Inspections by Sanitary Inspectors or Inspectors of Nuisances.

Premises.	Number of				
(1.)	Inspections (2.)	Written (3.)	Prosecu- tions (4.)		
Factories Workshops Workplaces	94 110 62	10 18 14	=		
Total	266	42	_		

### 2.—Defects found in Factories, Workshops and Workplaces.

,	Num	ber of D	efects	Number
Particulars.	Found.	Remedied.	Referred to H.M. Inspector	of Prosecu-
(1.)	(2.)	(3.)	(4.)	(5.)
Nuisances under the Public Health Acts:— Want of Cleanliness Want of Ventilation Overcrowding Want of drainage of floors Other nuisances  insufficient unsuitable or defective dation  Offences under the Factory And Workshops Acts:— Illegal occupation of underground Bakehouse (s. 101) Breach of special sanitary requirements for Bakehouses (ss. 97 to 100)	$\begin{bmatrix} 7 \\ 3 \\ -2 \\ 20 \\ 2 \\ 9 \\ \\ 2 \end{bmatrix}$	7 3 -2 20 2 9 -		
Other offences				
Total	45	45	-	-

### 4.—Registered Workshops.

Workshops on the Register (s. 131) at the end of the year.  (1)	Number. (2)
Total number of Workshops, comprising 29 different classes	116

### 5.—Other Matters.

Class. (1)	Number. (2)
Matters notified to H.M. Inspector of Factories:— Failure to affix Abstract of the Factory and Workshop Acts (s. 133, 1901)	2
Notified by H.M. Inspector	
Reports (of action taken) sent to H.M. Inspector	
Other	-
Underground Bakehouses (s. 101) in use at the end of	
the year	

# The number and description of Factories and Workshops in the District are as follows:—

Description of Works. No Cotton Spinning and Weav-	).
	8
Bleachers and Dyers	3
Chemical Manufacturers	3
Cement Manufacturer	i
Steam Laundry	i
Metal Foundries	$\frac{1}{2}$
Tin Smiths	$\frac{2}{3}$
Shoeing and General Smiths	2
Dlamboro	6
Plumbers Painters and Decorators	2
	7
Builders' Yards	4
Joiners	-
Coach Builder	1
Electrical Engineers	2
Gasworks	1
Grocers' Sundries Manufac-	
turer	1
Pickle and Preserve Manu-	
_ facturers	2
Engineering Works	6
Cycle and Motor Works	2
Wringing Machine Manufac-	
turer	1
General Waste Dealers	3
Monumentalists	2
Printer	1
Motor Body Builder	1
Hat Renovator	1
Rubber Heel Manufacturer	1

Description of Works. Timber and Firewood	
Dealers	2
Boot and Shoe Manuacturer	
Mineral Water Manufacturer	
Textile Machinery Manufac-	-
turer	- 1
Mews	î
Tripe Boilers	$\tilde{2}$
Fodder Stores	$\bar{2}$
Tailors	$\bar{3}$
Station Goods Yards	2
Bakehouses	28
Sterilised Milk Depot	1
Coal Depots	13
Slaughter Houses	8
Cold Stores and Ice Plant	1
Wholesale Provision Dealer	
Farmsteads	
Manufacturing Chemist	1
Shirt Manufacturer	1
Cotton Waste Dealers	2
Knitted Coats Manufacturer.	
Upholsterer	1
Post Office	
Town's Store Yard	
Cemetery	
Sewage Disposal	. 1
Refuse Destructor	. 1
Total	162

### FOOD.

MILK SUPPLY.

No special local arrangements are in force for ascertaining the wholesomeness of the milk produced within or imported into the district, but samples of this food are taken for analysis by the Inspectors of the Lancashire County Council, who are the Local Authority under the Sales of Food and Drugs Acts. Samples of milk for the purpose of detecting adulteration are also frequently taken from milk retailers by the police.

The services of a Veterinary Surgeon are called in with respect to suspected tuberculosis in milch cows when and as required.

The administration of the Dairies, Cowsheds, and Milk-shops Orders is carried out effectively, and the sanitary condition of the Dairies, Cowsheds, and Milkshops in the district leaves little scope for improvement.

One Cowshed was condemned and closed on account of its dangerous and insanitary condition, and another building newly put into use as a Cowshed was found unsuitable for the purpose, and the cattle caused to be removed.

Three Certificates of Registration were granted to cowkeepers.

The Milkshops are well kept, and are usually found quite satisfactory.

Three premises were found where the milk-vessels were not protected from dust, etc., and at two shops the milk was improperly kept, being situate in close proximity to articles of a contaminating nature.

The cleanliness of the milk vessels and measures have given no cause for complaint, but the protection of the milk from dust by suitable covering is not always carried out when it should be. Care in this respect has been impressed upon the shopkeepers.

The structural and sanitary conditions of a tripe boiling establishment were found to have fallen below the necessary standard, and the requisite improvements were insisted upon. MILK (MOTHERS AND CHILDREN) ORDER, 1918.

The administration of this Order is in the hands of the Lancashire County Council, through the medium of the Droylsden Infant Welfare Centre.

### OTHER FOODS.

The inspection of meat, foodstuffs, etc., has not necessitated the seizure of any unsound food, nor have any legal proceedings been instituted, and no complaints have arisen.

The Slaughter-houses (eight in number) are all registered and are generally in good condition, but in four cases they are in very undesirable proximity to dwellings, some of the Slaughter-houses forming the back rooms of the premises. The floors and walls are well constructed and in a good state of repair.

Improvements were required to be carried out at two Slaughter-houses before the resumption of slaughtering was permitted.

During the past few years the practice of slaughtering live cattle and sheep by local butchers has been discontinued, all supplies being obtained from the Manchester Abattoirs. But with the recent removal of restrictions from the meat trade a few of the local butchers have again commenced to slaughter animals on their own premises.

The Bakehouses mostly are small, and, as in the case of some Slaughter-houses, they are usually situated in undesirable proximity, if not actually within, the dwelling portion of the premises. There is one mechanical bakery, and this is of modern construction, and along with the others, is well kept. The use of the underground bakery has been discontinued, and it is hoped that the premises will not again be used for this purpose.

Eight defects were discovered at Bakehouses during the year, and the whole of these have now been remedied.

The Offensive Trades consist of two Tripe Boilers, one Rag and Bone Dealer, and fourteen Fish Friers, and no complaints have been received with respect to any of these.

## PREVALENCE OF AND CONTROL OVER INFECTIOUS DISEASES.

During the year under the Infectious Diseases (Notification) Acts, 142 cases of infectious disease were notified, as compared with 269 in the previous year, but the reduction is almost wholly accounted for by the recission of the Order requiring the notification of measles.

The following table shows the number of cases of infectious disease notified during the last ten years:—

1911	. 1912.	. 1913	. 1914	. 1915.	. 1916	. 1917	. 1918	. 1919	. 1920.
Smallpox 0	0	0	0	0	0	0	0	0	0
Diphtheria15	15	9	9	8	9	13	6	2	12
Erysipelas10	9	8	14	14	10	7	15	18	7
Searlet fever31	32	45	81	50	19	13	24	24	26
Enteric fever11	7	8	5	26	4	1	1	1	1
Puerperal fever 2	3	2	2	2	-1	3	34	0	3
Poliomyelitis	•••	1	1	0	0	1	0	0	0
Pulmonary tuberculosis23	52	55	41	47	43	47	39	33	27
Other forms of tuberculosis	•••	24	22	21	23	27	10	5	14
Pneumonia	•••		•••					38	35
Ophthalmianeonatorum		•••	. 1	2	6	6	11	8	8
Malaria				• • •	•••			24	8
Dysentery					0	0	0	0	1
Measles					118	231	63	116	0
Totals92	118	152	176	170	233	349	172	269	$\frac{-}{142}$

On receipt of the notification of infectious diseases enquiries are instituted as soon as possible into the causes of infection, and the premises examined to ascertain if insanitary conditions exist, and such, where found, are caused to be immediately remedied. Complete isolation of the patients from non-infected members of the household is insisted upon, and when the patients are sufficiently recovered the houses and infected articles therein are thoroughly disinfected by means of formaldehyde vapour and izal fluid.

Disinfectant in liquid and powder form is supplied free during the progress of illness resulting from infectious disease, and any householder may at any time receive free supplies of disinfectants on making an application accompanied by a satisfactory reason, at the Council Offices.

A Steam Disinfector (Alliotts' Patent) is in use at the Destructor Works and a suitable four-wheeled Van and a small Hand Van are available for conveying infected articles to and from the Disinfecting Station.

During the year 99 premises were disinfected by the Health Department, as follows:—Schools, 15; Houses—After Tuberculosis 35, Scarlet Fever 32, Diphtheria 10, Scabies 5, Erysipelas 1, and 1 dirty house.

Under the Diphtheria Anti-toxin Order, 1910, 40,000 units of Diphtheria Anti-toxin were administered by practitioners to patients resident in the district suffering from diphtheria.

There was no cases of Encephalitis Lethargica and no "Return" cases of Scarlet Fever. The cases of Malaria were all traced to foreign origin.

Arrangements made with the Manchester Public Health Laboratory for the examination of swabs taken from throats suspected to be diphtheritic, sputum collected from patients suspected to be tubercular, and blood collected from patients suspected to be suffering from enteric fever, by practitioners in attendance on the residents in the district resulted in 17 bacteriological examinations being made:—Blood 2, swabs 13 and sputum 2.

A weekly report is submitted by the School Attendance Officer indicating the prevalence of diseases amongst school children and at no time during the year was it found necessary to adopt school closure,

A number of cases of smallpox were notified in districts adjacent to Droylsden, and action was taken to deal promptly with any cases which might have arisen in the area, but fortunately none occurred.

Two deaths occurred from Influenza.

Supplies of Tetanus Anti-toxin and Influenza Vaccine have been obtained, and may be procured on application at a local chemists in a manner similar to that in which Diphtheria Anti-toxin is issued.

A supply of leaflets relating to Influenza, drawn up on lines suggested by the Chief Medical Officer of the Ministry of Health, was obtained, but happily the necessity for their distribution has not occurred.

### VENEREAL DISEASES.

During the year the scheme of the County Council for the diagnosis and treatment of venereal diseases was again brought to the notice of medical practitioners in the district.

Arrangements have been made with 26 Public Institutions in various parts of the County for the free treatment of any person suffering from Venereal Diseases. Any medical practitioner, on application to the County Medical Officer of Health, will be supplied with an outfit for the purpose of sending a specimen from a person suffering, or suspected to be suffering, from Venereal disease, for examination, such examination being carried out free of charge. Medical practitioners (approved for this purpose) are also supplied gratuitously with salvarsan substitutes.

### TUBERCULOSIS.

The arrangements for dealing with the treatment and care of tuberculous persons is principally in the hands of the County Tuberculosis Department.

Notifications of tuberculosis by medical practitioners are carried out in a satisfactory and thorough manner, and no action has been found necessary for enforcing the regulations or enforcing prompt notification.

On receipt of notifications of cases of tuberculo is particulars are transmitted through the County M dical Officer of Health to the Tuberculosis Officer of Area 23, Ashton-under-Lyne, Dr. J. L. Stewart, M.A., M.B., D.P.H., who arranges for the domiciliary, dispensary, sanatorium or pulmonary hospital treatment of the patients.

The homes of the patients are visited by a Health Visitor on the staff of the tuberculosis dispensary and on the results of her investigations reports on the environmental conditions existing at each of the respective premises are received, in which attention is drawn to any special defects existing. These defects are immediately examined by the Inspector of Nuisances and steps taken to cause the same to be remedied.

During the year environmental reports were received relating to 39 houses, at 27 of which special defects were notified varying from broken window cords to leaky roofs, damp walls and floors. In all cases the necessary repairs have been effected or are in hand.

Importance is attached to the disinfection of the homes of tuberculous subjects and this is performed free at any time on request.

Arrangements are also in force whereby notification is received from the County Council of the proposed admission of a patient into Sanatorium or Pulmonary Hospital, and from the Registrar of Deaths on the registration of a death from tuberculosis, and in each of these cases thorough disinfection of the premises is carried out.

During the year 35 houses were disinfected after tuberculosis.

The number of tuberculous patients resident in Droylsden at the end of 1920 were as follows:—

Pulmonary	(positive	cases)	Males	10	
,,	,,	,,	Females	12	
					22
Non-Pulmo	nary (Ma	les and	Females)		86
		Total			108

### MATERNITY AND CHILD WELFARE.

The Lancashire County Council are the supervising authority under the Midwives Act, and the provisions of these statutes are carried out entirely by them.

A Maternity and Child Welfare Centre established in the district is conducted by the Lancashire County Council, as is also the School Medical Service.

Upon the receipt of notifications of Puerperal Fever prompt inquiries are instituted, and the result of the investigation transmitted to the County Medical Officer, who at his discretion causes further inquiries to be made by the County Inspector of Midwives. Three cases of Puerperal Fever were notified during the year. Disinfection of the clothing and equipment of a midwife who has been in attendance upon a case of Puerperal Fever is insisted upon.

Eight cases of Ophthalmia Neonatorum were notified during the year. On notification inquiries are made, and the details forwarded to the County Medical Officer of Health, who, if he sees fit, conducts further inquiries through his own officials. Severe cases are frequently sent as in-patients to the Manchester Royal Eye Hospital.

Measles and Whooping Cough were prevalent more or less during the whole year, the former particularly during the month of February, but never attained great proportions. Four deaths were registered as having been caused by Whooping Cough and two by Measles.

Zymotic Diarrhœa was practically non-existent during the year under review, and only two deaths were registered from that cause in children under two years of age.

No cases of Poliomyelitis occurred in the district.

### SANITARY ADMINISTRATION.

STAFF.

The Inspector of Nuisances, who also acts as Superintendent of the Removal of House Refuse, Designated Officer under the Housing (Inspection of District) Regulations, etc., is Mr. Frank Schofield, and he has the part-time assistance of one clerk. The Inspector of Nuisances is fully occupied and performs his duties with marked ability and in a conscientious manner.

### HOSPITAL ACCOMMODATION.

Owing to insufficient means of isolation at home, four cases of Scarlet Fever, four cases of Diphtheria and one case of Erysipelas were removed to the Hyde Hospital for Infectious Diseases, where six beds are retained (one for smallpox and five for other diseases) at an annual rental of £66. As many beds as required in addition to the above, are available up to the limit of accommodation of the Hospital. Payments during the year for the maintenance of patients amounted to the additional sum of £69. No deaths occurred in Hospital.

Delay in the removal to Hospital of a case of Laryngeal Diphtheria pointed to lack of efficiency in the Ambulance Department of the responsible authority, and strong representations were made urging the Hospital Authorities to use every endeavour to avoid a similar occurrence.

The Hyde Corporation have given notice of their intention to terminate the Agreement in March, 1921, presumably with the object of obtaining increased fees.

The following Acts have been adopted by the Council:— Date Act came Title of Act. in force in District. The Infectious Disease (Notification) Act, 1st June, 1893. The Infectious Disease (Prevention) Act, 29th Dec., 1902. The Private Street Works Act, 1892 ....... 26th Aug., 1901. The Public Health Acts (Amendment) Act, 1890 (Parts 2, 3, and 4) ...... 1st Sept., 1906. The Public Health Act (Amendment) Act, 1907 (Parts 2 and 3) (certain sections thereof), Parts 4 and 6, and Sections 95 comprised in Part 4 ..... 17th Nov., 1913.

Regulations under the Dairies, Cowsheds, and Milkshops Order were made on July 22nd, 1902.

Revised Bye-Laws regulating new streets and buildings, sewerage, removal of excrement and refuse, water closets etc., were sanctioned in the year 1908 on the lines of the Board's model series.

Bye-Laws regulating slaughter-houses were sanctioned on October 16th, 1903.

Bye-Laws with respect to Tents, Vans, Sheds and similar Structures used for Human Habitation were sanctioned on July 22nd, 1920.

### HORSE AMBULANCE.

The Horse Ambulance which is owned by the Urban District Council was utilised 39 times for the removal of private cases of illness and for one accident case. The receipts were £12 19s. 9d., against an expenditure of £33 3s. 6d.

The Horse Ambulance is kept at a local mews and whilst the service is generally satisfactory an impression was formed that greater efficiency would result if the working of the Ambulance could be undertaken by the Police Department. Negotiations with the Chief Constable for Lancashire however fell through and the service is still under the jurisdiction of the Sanitary Inspector.

### DROYLSDEN CEMETERY.

Droylsden Cemetery was opened on July 25th, 1896, the site contains 15 acres of which a portion is laid out as a Park.

The Cemetery belongs to and is managed by the District Council, and up to the end of 1920 there were 6,139 interments.

### MORTUARY.

In July the Mortuary was allocated by the Council to the Health and Works Committee, who have placed the supervision of the building with the Medical Officer of Health.

### INFANT WELFARE CENTRE.

An Infant Welfare Centre on voluntary lines was opened in the Wesleyan School in 1916, and has performed very valuable work. The Institution is now under the jurisdiction of the Lancashire County Council.

### DISTRICT NURSING ASSOCIATION.

The District Sick Nursing Association employs two whole-time nurses for the visitation of the sick.

### HOUSING.

The following information with respect to the general housing conditions in the District, together with the Appendices at the end of the Report, is given seriatim at the request of the Minister of Health, and in some respects involves reiteration of previously expressed statements.

The total number of houses in the District is 3,203, of which approximately 2,500 are suitable for the working classes.

The estimated population is 13,645.

The average number of occupants per house is 4.26.

There are no back to back houses in the district.

At the end of the year there was an estimated shortage of 561 dwelling-houses in the district, and to meet this shortage the Housing Scheme of the Council for the provision of a first instalment of some 251 houses has now been commenced.

Work was proceeding on the erection of 35 houses at the close of the year, and it is expected that seven of these will be ready for tenancy in June, 1921.

No important change in the number of the population occurred during the year or is anticipated in the near future. Overcrowding exists to a considerable extent, it being estimated that 269 houses are required to relieve overcrowding alone.

The causes of overcrowding are primarily the cessation of building of dwelling-houses during the past few years, the clearance of a large number of houses in an adjacent district to enable extensive works to be erected for the manufacture of heavy ordnance and the attraction of high wages paid by firms engaged in the production of war material, causing a large influx of workers in the district, who immediately occupied the vacant houses and shops, the remainder of the new comers obtaining lodgings.

Unemployment is at present very acute amongst these workers, very many of whom were no doubt engaged originally in other pursuits, and it remains to be seen whether the present distress will have any effect in inducing them to return to their former places and occupations.

The general standard of houses in the district is good, on the whole, but there is found a continued tendency on the part of the owners to shirk repairs or renewals of an expensive nature, and decoration has become a thing almost unknown.

In the case of houses found to be unfit, the general character of the defects were serious dampness, dilapidation and decay.

28 Statutory and 44 Informal Notices were served under the Housing Town Planning Acts, 1909 and 1919, in respect of general dilapidations, dampness, etc., at 57 houses and unfitness of habitation at 9 houses; Closing Orders being issued in the latter cases.

Immediately these Closing Orders became operative the usual Notices to Quit, in accordance with the Housing, Town Planning, etc., Acts, 1909 and 1919, were served on the occupiers of the affected houses, and the owners ceased both to collect rents and in some cases were relieved of their responsibility in the matter of payment of rates and taxes. In view of the housing shortage the tenants have failed to secure other accommodation, and, so far, in every case, have been unable to comply with the Notice to Quit. The net result is that houses, in a most dangerous state and quite unfit for habitation, still continue to be habited rent free by the tenants, with the Local Authority unable to take any further action until the position is eased by the erection of new houses.

In addition 37 Statutory Notices and 274 Informal Notices were served under the Public Health Acts for the abatement of nuisances and other matters at 558 houses.

The total number of outstanding Notices not complied with at the end of 1920 was 45 only, and in most of these cases arrangements had been made for proceeding with the necessary work.

Many difficulties are encountered in remedying unfitness of houses owing to the high cost of labour and materials, and the reluctance of owners to carry out substantial repairs or improvements during the operation of the Rents and Mortgages (Restriction) Act, the terms of which are now well known.

It is a fact worthy of mention that in not a single instance has formal application been made for the inspection of a house under the Act on the ground that the house is not in all respects reasonably fit for human habitation, or is otherwise not in a reasonable state of repair.

The Water Supply is good, constant, and of excellent quality, all houses, with the exception of two, being connected to the service mains of the Manchester Corporation.

Very few closets on the conservancy system now remain and these are being converted to the water-carriage system with the utmost despatch, and the few remaining middens are being removed and substituted by movable galvanised metal ashbins with loose covers.

During the year 1919, 150 privy closets and 8 pail closets were converted to the water-carriage system, and 90 middens and ashpits were abolished and galvanised metal bins provided in their stead.

There are no unhealthy "Areas" in the district.

The existing Bye-Laws, so far as they relate to houses, operate in a satisfactory manner, but the need has been found for new Bye-Laws relating to tents, vans, sheds, etc., and the model Bye-Laws of the Local Government Board (now the Ministry of Health) were adopted on April 13th, 1920, and immediately put into effect with the result that the District has now been vacated by a large number of Van Dwellers whose presence was open to serious objection.

I am, Miss Wood and Gentlemen,

Your obedient servant,

F. G. P. ILDERTON,

Medical Officer of Health.

### APPENDICES.

### HOUSING CONDITIONS.

### Statistics

Year ending 31st December, 1920.

### 1.—GENERAL.

(1)	Estimated Population	13,645
(2)	General Death-rate	11.5
(3)	Death-rate from tuberculosis	1.2
(4)	Infantile mortality	76
(5)	Number of dwelling-houses of all classes $\ldots \ldots$	3,203
(6)	Number of working-class dwelling-houses $\ldots \ldots$	2,500
(7)	Number of new working-class houses erected $\ldots\ldots$	Nil.

### 2.—UNFIT DWELLING-HOUSES.

### I .- INSPECTION.

(1) Total number of dwelling-houses inspected for defects (under Public Health or Housing Acts)

	(2) Number of dwelling-houses which were inspected and recorded under the Housing (Inspection of District) Regulations, 1900	48
	(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	9
	(4) Number of dwelling-houses (exclusive of those referred to under the preceding sub-heading) found not to be in all respects reasonably fit for human habitation	48
11.—	-REMEDY OF DEFECTS WITHOUT SERVICE OF FORMAL NOTICES.	
	Number of dwelling-houses rendered fit in consequence of informal action by the Local Authority or their officers	64
III	-ACTION UNDER STATUTORY POWERS.	
	A. Proceedings under section 28 of the Housing, Town Planning, etc., Act, 1919.	
	(1) Number of dwelling-houses in respect of which notices were served requiring repairs	13
	(2) Number of dwelling-houses which were rendered fit:—	
	(a) by owners	13
	(b) By Local Authority in default of owners	Nil.
	(3) Number of dwelling-houses in respect of which Closing Orders became operative in pursuance of declarations by owners of intention to close	9

(2) Number of dwelling-houses in which defects were remedied:—  (a) By owners	494 528 Nil.
were remedied:—  (a) By owners	
(b) By Local Authority in default of owners	Vil.
(0) Dy Doom Flathority in actual of owners	
C. Proceedings under sections 17 and 18 of the Housing, Town Planning, etc., Act, 1909.	
(1) Number of representations made with a view to the making of Closing Orders	9
(2) Number of dwelling-houses in respect of which Closing Orders were made	9
(3) Number of dwelling-houses in respect of which Closing Orders were determined, the dwelling-houses having been rendered fit	Vil.
(4) Number of dwelling-houses in respect of which Demolition Orders were made	Vil.
(5) Number of houses demolished in pursuance of Demolition Orders	Vil.
3.—UNHEALTHY AREAS.	
Areas represented to the Local Authority with a view to Improvement Schemes under (a) Part I., or (b) Part II., of the Act of 1890	Vil.
-Number of houses not complying with the building bye-laws erected with consent of Local Authority under section 25 of the Housing, Town Planning, etc., Act, 1919	Vil,

5.—Staff engaged on housing work with, briefly, the duties of each officer:—

Designated Officer under the Housing (Inspection of District) Regulations, 1910:—

Mr. Frank Schofield (Inspector of Nuisances to the Urban District Council).

Architect for the Housing Schemes:—

Mr. Charles Hall (Engineer and Surveyor to the Urban District Council).

Quantity Surveyor and Clerk of Works:— Mr. Laurence J. Flood.

Architectural Assistant and Cost Clerk:— Mr. A. H. Amor.

Shorthand-Typist:—
Miss Mabel Thornhill.

